SOCIETIES AND ACADEMIES

THE AMERICAN MATHEMATICAL SOCIETY

THE one hundred and seventy-second regular meeting of the society was held at Columbia University on Saturday, October 31. The attendance at the morning and afternoon sessions included thirty-eight members. Vice-president L. P. Eisenhart occupied the chair. The Council announced the election of the following persons to membership in the Society: Dr. H. R. Kingston, University of Manitoba; Mr. Colin MacLennan, Havana Electric Railway, Light and Power Company; Mr. E. E. Moots, Walla Walla, Wash.; Mr. C. N. Reynolds, Jr., Harvard University; Dr. Joseph Rosenbaum, New Haven, Conn.; Dr. Joseph Slepian, Cornell University; Dr. Anna H. Tappan, Iowa State College; Dr. Mabel M. Young, Wellesley College. Several applications for membership were lost in the fire in the society's office; the secretary will be glad of any information regarding these. Four new applications were received.

A list of nominations of officers and other members of the council was prepared for the official ballot for the annual election in January. A committee was appointed to audit the treasurer's accounts for the current year. Arrangements were made for adjusting the insurance on the property of the society destroyed by the fire and for refitting the office with the most essential appliances.

The following papers were read at this meeting:

G. M. Green: "On completely integrable systems of homogeneous linear partial differential equations."

G. A. Pfeiffer: "Contributions to the conformal geometry of analytic arcs."

C. A. Fischer: "Conditions for a minimum of an n-fold integral."

Mr. E. C. Kemble: "Note on the definition of work."

H. S. White: "Census of the triad systems on 15 letters."

Edward Kasner: "A law of reciprocity in the calculus of variations."

K. P. Williams: "Concerning a certain totally discontinuous function."

T. H. Gronwall: "Some remarks on conformal representation."

The Southwestern Section of the society will meet at the University of Nebraska on November 28. The Chicago meeting of the society will be held on December 28–29, and the annual meeting in New York on January 1–2. At the annual meeting President E. B. Van Vleck will deliver his presidential address on "The rôle of the point set theory in geometry and dynamics."

F. N. COLE,
Secretary

THE AMERICAN PHILOSOPHICAL SOCIETY

AT a meeting of the American Philosophical Society held on November 6, Professor Eric Doolittle made a communication on "The Determination of the Longitude of the Flower Observatory of the University of Pennsylvania." This determination was effected by an employment of the wireless signals sent out by our government through the department of the Navy in their recent important international longitude campaign.

As is well known to astronomers, a long series of these wireless signals were interchanged on each night, from October, 1913, to March of the present year, between the powerful wireless station at Radio, Virginia, and the station at the Eiffel tower. The result of this work has, of course, not yet been reached definitively, but from the preliminary reductions it seems evident that the difference in longitude between these two widely separated stations will be determined with an accuracy which has never before been approached.

The process of determining the longitude of the Flower Observatory was described in detail by the lecturer, the very full directions sent by the Naval Observatory to the other observatories of our country having been closely followed in the work. The observations were continued from November 17 to December 20; the results of the 55 comparisons were in unexpectedly close agreement. The probable error of the final mean was but 0.015 sec., though it is probable that the effects of the personal equation have not been entirely eliminated from this result. The variation of the individual values was considerably less than that of those obtained three years ago by the ordinary telegraphic method, but the final value, as found, was about 0.1 sec. smaller than that found previously. It is evident, however, that the wireless method is one of extreme accuracy and probably the most accurate of all methods available.

The success of this work is due in no small degree to the continued courtesy and help of the officials of the Naval Observatory. From no account of wireless longitude determination, however brief, should there be omitted a word of appreciation of the work which they have now so nearly completed—a work excellently planned and ably executed, which is a contribution of enduring value to the science of exact astronomy.

THE NEW ORLEANS ACADEMY OF SCIENCES

THE regular monthly meeting of the New Orleans Academy of Sciences was held in Stanley Thomas Hall, Tulane University, on Tuesday, October 20. President W. B. Gregory presided, with a large attendance of fellows and members. The president announced that during the summer a room had been furnished and equipped in the Stanley Thomas Hall for the library of the academy. The paper of the evening was read by Dr. C. C. Bass, professor of experimental medicine, on "Pyorrhea Alveolaris." The speaker said in part:

Pyorrhea alveolaris is almost a universal disease. It begins in childhood or early adult life in practically all people. It is usually unrecognized by the patient until one or more teeth get sore and loose in the socket. By a long suppurating process the peridental membrane, which holds the tooth in place, is destroyed, and the tooth is lost. This process goes on from year to year and tooth after tooth is lost, until finally all are removed by the disease or by necessary dental operation.

The cause of the disease has been found to be *ameba buccalis,* which destroys the peridental membrane, separating the tooth first from its gum and later the alveolar process or bony socket.

Emetine hydrochloride injected hypodermatically one half grain daily for three or four days, destroys the demonstrable amebæ in most cases and great improvement and cure of mild or early disease results. The treatment should be repeated one or more times in most cases, however, after an interval of one to four weeks. All patients and perhaps everybody should apply ipecac to their normal or diseased gums by brushing the teeth once a day with a wet brush on which one or two drops of fluid extract of ipecac are placed. The ipecac (from which emetine is made) should prevent the disease and apparently may cure it where not deep seated.

There was considerable discussion of the paper, in which Drs. Belden, Wallace, Wood, Mann and others took part. A unanimous vote of thanks was accorded the speaker at the end of his interesting paper.

R. S. COCKS,
Secretary

ANTHROPOLOGICAL SOCIETY OF WASHINGTON

AT the 475th regular meeting of the society, held October 21 in the Public Library, Dr. D. S. Lamb, editor of the *Washington Medical Annals,* delivered an address on "Sanitation in Ancient Civilizations." The need of sanitation was especially shown by the histories of epidemics; for instance, the black death of the fourteenth century destroyed, it is said, about 25,000,000 persons. Pure water was one of the first necessities. Man must have availed himself at first of the use of springs, lakes and streams; later he dug wells and built cisterns, and still later built aqueducts. Old artesian wells are found in Asia Minor, Persia, China, Egypt, Algeria and even the Desert of Sahara. There were ancient aqueducts in Palestine, Greece, Mexico, Guatemala and Peru. Rome at one time had nineteen aqueducts, fourteen of which were large and had a total length of 359 miles. When the king of Persia traveled, he had the water boiled before drinking it. Among the Hebrews waste was buried or burned. The Romans built great sewers or cloacæ, several of which are still in use. At one time the sewers were cleaned out at a cost of a million dollars.

The dead, after battle, were usually buried in large pits or burned. To open such pits or church vaults and old burial grounds sometimes caused sickness and even death. The Egyptians embalmed the dead. Infants were often buried beneath the habitation. The dead were generally cremated in ancient Mexico, and in Rome from 450 B.C. until the spread of Christianity. In Greece the dead were buried near the houses of the living. Indian mounds in the United States contain the bodies of the dead. Hot-air baths and sweat baths were found among the ancients. Soap was mentioned by Pliny about A.D. 25 and was said to have been brought from Germany. The Hebrews were required by religious regulations to be clean in person, clothing and houses. The Romans had many public baths free to all. The Greeks bathed daily. The Hebrews attempted to segregate the lepers. Circumcision was common among the Egyptians and in many other parts of the world. Among the Hebrews it was a religious ceremonial. The Egyptians tabooed some articles of food, believing that diseases were contracted through them. The Hebrews had many rules of diet with the force of religious injunctions; especially as to meat, the animal was to be slaughtered in a certain way, with much attention to detail.

DANIEL FOLKMAR,
Secretary